

What Is Claimed Is:

1. A method for operating a radar sensor whose radar pulses are generated by passing a continuous microwave signal through an RF switch (1) which is periodically controlled by a pulse signal, wherein the pulse signal for controlling the RF switch (1) is modulated in such a way that the spectral lines of the pulse signal are expanded without the radar signal decorrelating by itself.
2. The method as recited in Claim 1, wherein the input signal and/or the output signal of the RF switch (1) is low-pass or band-pass filtered.
3. The method as recited in Claim 1 or 2, wherein the modulation index in frequency modulating the pulse signal is selected to be approximately 0.1.
4. A radar sensor, in particular for carrying out the method as recited in one of Claims 1 through 3 having the following features:
 - an oscillator (3) for microwave signals,
 - at least one RF switch (1, 2) in the transmission branch and the receive branch,
 - a control unit (9) for controlling the RF switch (1, 2), at least the RF switch (1) in the transmission branch receiving a frequency-modulated pulse signal from the control unit (9).
5. The radar sensor as recited in Claim 4, wherein diode switches having a linear characteristic are used as RF switches (1, 2).
6. The radar sensor as recited in Claim 5, wherein the diode switch(es) is (are) PIN diode switches having thin intrinsic layers in particular.

7. The radar sensor as recited in Claim 6,
wherein the intrinsic layer of the PIN diode switch(es)
is dimensioned in such a way that switching times of up
to 400 ps are achievable.
8. The radar sensor as recited in one of Claims 4 through 7,
wherein at least the RF switch (1) in the transmission
branch has a diode pair (24, 25) which is connected to
ground (28) and connects the output signal of the
oscillator (3) to the transmission antenna (5) via
blocking circuits (26, 27) in the conducting state.
9. The radar sensor as recited in Claim 8,
wherein the blocking circuits have finger couplers.
10. The radar sensor as recited in one of Claims 4 through 9,
wherein the output of the oscillator (3) for the
microwave signal is connected to a buffer amplifier (36)
operated at saturation in particular.
11. The radar sensor as recited in one of Claims 4 through
10,
wherein the oscillator (3) is a Gunn oscillator.
12. The radar sensor as recited in one of Claims 4 through
11,
wherein a mixer/phase detector (3) provided on the
receive side has a diode pair (37, 38) for analyzing the
received radar signals.
13. The radar sensor as recited in Claim 2,
wherein the diode pair (37, 38) is situated adjacent on a
chip in particular and is situated within a ring mixer
(39) having strip conductors.